ORIGINAL

HOGAN & HARTSON
L.L.P.

EX PARTE OR LATE FILED

LINDA L. OLIVER
PARTNER
DIRECT DIAL (202) 637-6527

January 14, 2000

COLUMBIA SQUARE
555 THIRTEENTH STREET, NW
WASHINGTON, DC 20004-1109
TEL (202) 637-5600
FAX (202) 637-5910

BY HAND DELIVERY

Ms. Magalie R. Salas
Secretary
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: Applications for Transfer of Control of Qwest Communications International Inc. and U S WEST, Inc., CC Docket No. 99-272

Dear Ms. Salas:

The enclosed letter and attachment was submitted yesterday to Henry Thaggert by the undersigned counsel for Qwest Communications International Inc. Please include it in the record in the referenced proceeding.

Please return a date-stamped copy of this letter (copy provided).

Please contact the undersigned if you have any questions.

Respectfully submitted,

Linda L. Oliver
Counsel for Qwest Communications International Inc.

Enclosure

cc: Henry Thaggert
Service List (w/o attachment)

No. of Copies rec'd 0+2
List A B C D E

HOGAN & HARTSON
L.L.P.

COLUMBIA SQUARE
555 THIRTEENTH STREET, NW
WASHINGTON, DC 20004-1109
TEL (202) 637-5600
FAX (202) 637-5910

LINDA L. OLIVER
PARTNER
DIRECT DIAL (202) 637-6527

January 13, 2000

Henry Thaggert
Common Carrier Bureau
Policy Division
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
Washington, DC 20554

Re: Qwest Communications International Inc. and U S WEST, Inc. Applications for Transfer of Control; CC Docket 99-272

Dear Mr. Thaggert:

As you requested, enclosed is a copy of the August 1999 Local Competition Report of the Common Carrier Bureau's Industry Analysis Division. This report was referenced at page 15 of the Declaration of Dennis W. Carlton and Hal S. Sider, which was submitted as Attachment A to the "Response to Comments on Applications for Transfer of Control" filed on October 18, 1999, by Qwest Communications International Inc. and U S WEST, Inc., in the referenced proceeding. The declaration noted that "data published and collected by the FCC indicate that Qwest does not hold numbering codes in any LATA served by U S WEST, which is a prerequisite to offering facilities-based service as a CLEC." The referenced data is set forth in Table 4.2 of the attached August 1999 Local Competition Report.

Please call me if you have any further questions.

Sincerely yours,

Linda L. Oliver
Counsel for Qwest Communications International Inc.

Enclosure

LOCAL COMPETITION: AUGUST 1999

Industry Analysis Division
Common Carrier Bureau
Federal Communications Commission

This report is available for reference in the FCC's Reference Information Center at 445 12th Street, S.W., Courtyard Level. Copies may be purchased by calling International Transcription Services, Inc. (ITS) at (202) 857-3800. The report can be downloaded [file name LCOMP99-1.PDF or LCOMP99-1.ZIP] from the **FCC-State Link** internet site at http://www.fcc.gov/ccb/stats on the World Wide Web.

LOCAL COMPETITION: AUGUST 1999

Local Competition: August 1999 is an update to the *Local Competition* report released in December 1998. It presents more recent information about the extent and pattern of local competition. We have undertaken various statistical analyses, and present several preliminary findings and suggestions for further research.

The information summarized in this report shows that local service competitors continue to grow very rapidly but remain a small portion of the overall market. Traditional local telephone companies -- also called incumbent local exchange carriers or ILECs -- continued to claim well over 90% of the nationwide local market in 1998.

Information on the total revenues of telecommunications companies in 1998 is now available from data filed by those companies during the second quarter of 1999.[1] Even under the most expansive definition of local service competition -- which includes competitive local exchange carriers (CLECs), competitive access providers (CAPs), and also long distance and other telecommunications carriers to they extent they report local service revenues -- the ILECs retain 96% of local service revenues. Further, even within their relatively small share of the market, the revenues of local competitors come primarily from special access and local private line services rather than from switched service to end users.

At least three trends appear interesting in the revenue data shown in Section II of this report. First, the nationwide revenue market share of carriers identifying themselves as primarily CLECs or CAPs has continued to increase, to 2.4% of local service revenues in 1998. Second, local exchange service revenues of "other" carriers (local resellers, shared tenant service providers, private carriers, payphone providers, toll carriers that reported local revenues, etc.) have grown rapidly, to 1.1% of 1998 nationwide local service revenues. Much of this amount represents entry *via* resale by carriers of substantial size. Third, therefore, the fringes of the local market are being nibbled by firms of substantial size (primarily long distance and wireless carriers with billions of dollars of non-local revenues).

The Telecommunication Act of 1996 established three paths to local service competition. CLECs may resell the services of ILECs. Second, CLECs may make use of ILEC facilities, such as unbundled network element (UNE) loops. Finally, CLECs may build their own facilities. Individual CLECs have used various combinations of these methods at different times.

Surveys of competitive activity as reported by major carriers are summarized in Section III of this report. The survey information indicates that about 2% of ILEC lines were being resold by CLECs at the end of 1998, up from about 1% at the end of 1997. (See Table 3.1.) The use of UNE loops almost tripled in the course of 1998, but remained a small 0.2% of incumbent company lines at the end of the year. (See Table 3.3.) Thus, ILEC competitors continue to concentrate on resale, rather than the use of UNE loops. The surveys of ILECs, of course, contain no information on the extent to which

---

[1] All companies with more than *de minimis* telecommunications revenues are required to file Universal Service Worksheets. Although the company-specific information is confidential, the reported revenues can be aggregated to provide the type of information presented in Section II of this report. This revenue information was on file with the Universal Service Administrative Company as of April 23, 1999.

CLECs are serving customers solely over their own facilities and, with few exceptions, CLECs have not participated in our voluntary local competition surveys. The available information about deployment of fiber optic systems, however, indicates that new local service competitors are deploying fiber in their networks at a faster rate than are ILECs. Local competitors increased their amount of fiber in place about five-fold from the end of 1995 to the end of 1998 and now have at least 16% of the total fiber optic system capacity potentially available to carry calls within local markets. (See Charts 2.1 and 2.2.)

The geographic reach of facilities-based competition also continues to increase. By the end of June 1999, facilities-based CLECs were in every state, and in all but 18 of the nation's 193 local access and transport areas (LATAs). (See Table 4.2.) In Section V of this report, we present the first publicly available information on telephone numbers transferred (or "ported") from one carrier to another. Over time, this information should provide insights into the number of customer lines served by competitors and also may ultimately provide information on other aspects of competition, such as customer churn among carriers.

In the initial section of this report we present a summary of our preliminary analyses of the pattern of local competition. Statistical analysis demonstrates a clear pattern of CLECs entering the largest and densest markets first. Our results also suggest interesting lines of additional inquiry, particularly about the influence of incumbent facility lease rates on the pattern of local competition.

While statistical analysis can identify relationships between variables -- and the statistical significance of those relationships -- it does not identify causality. In some cases, the statistical relationships we have identified could be explained by several alternative, and not necessarily consistent, hypotheses. Thus, we present our preliminary statistical analyses in order to encourage additional research rather than to report definitive conclusions. Because local competition is in its early stages -- with new local competitors serving fewer than 5% of lines in most areas -- more time will be required to identify trends and complete further analysis.

I. PRELIMINARY STATISTICAL ANALYSES OF LOCAL COMPETITION

The analyses described in this section address the progress of local telephone competition in the three-year period following the passage of the Telecommunications Act of 1996. Using data measuring the emergence of competition presented in later sections of this report, we have used standard statistical regression techniques to evaluate the effects of demographic and regulatory factors on the pattern of competitive entry into local telephone markets.[2]

Local Market Entry Strategies

The 1996 Act sought to encourage the development of competition in local telephone markets by providing new competitors with three separate methods of entering the market. First, using total service resale (TSR), firms can purchase ILEC services at discounted prices and resell the services to consumers. It was often suggested that firms would be more likely to select a resale strategy to build a presence when initially entering a market rather than as a longer term competitive strategy. As indicated in Table 3.1, about 1.7% of ILEC lines were provided on a TSR basis at the end of 1998.[3]

It also was anticipated that some firms would build complete telecommunications networks using their own facilities. For example, some of the firms having already installed fiber rings and other facilities to reach major corporations were expected to fill out their systems with additional switches and lines to smaller customers.

Finally, it was expected that some new entrants would lease a portion of facilities from ILECs while providing a portion of facilities themselves. Such a "hybrid" approach might include, for example, a carrier providing its own switching and vertical services while leasing local telephone lines from the incumbent carrier as UNE loops. As indicated in Table 3.3, about 0.2% of ILEC lines were provided as UNE loops at the end of 1998.

Questions Addressed by the Analyses

While the focus of the analyses summarized in this section is a description of entry patterns following passage of the 1996 Act, we have also conducted a preliminary assessment of the effectiveness of key components of the Act. In particular, we have assessed the prohibition in the Act that prevents Bell operating companies (BOCs) from providing long distance service in their own local service territories and the effects on competitive entry caused by the leasing and resale entry vehicles created by the Act. Our conclusions on these matters, however, are based on very preliminary evidence.

---

[2] Details of the econometric analysis are presented in a staff working paper, the most up-to-date version of which is available from Jim Zolnierek at jzolnier@fcc.gov or (202) 418-0940.

[3] In addition to reselling lines acquired from ILECs on a TSR basis (i.e., at a wholesale price discount from the ILEC's retail price), some competing carriers purchase some ILEC services at retail rates for resale as part of a package of local, long distance, and other communications services. On a nationwide basis, most ILEC lines resold by CLECs are acquired on a TSR basis, but the other form of resale is significant in several states. As reported in Table 3.1, the highest percentages of total resold lines (i.e., TSR plus other resale) are reported for Iowa, where McLeodUSA started reselling ILEC "centrex" services before the 1996 Act took effect.

Our data on facilities-based market entry, summarized in Section IV of this report, measure the number of solely facilities-based and hybrid carriers[4] in each LATA nationwide.[5] We have examined the progress of competition at four points in time: (1) at the conclusion of the first quarter of 1996 (essentially contemporaneous with passage of the 1996 Act); (2) at the conclusion of the first quarter of 1997; (3) at the conclusion of the first quarter of 1998; and (4) at the conclusion of the first quarter of 1999. When combined with demographic information, our data set provides us a means to evaluate competitive entry of facilities-based firms into local telephone markets.

Our analysis differentiates markets according to the amount of facilities-based competitive entry in each. For 1996, we examined differences between markets with and without entry. Our selection of only two categories for the 1996 data was dictated by entry behavior itself. There were very few markets entered in 1996. Consequently, the small number of markets with entry prevented us from examining more detailed differences among these particular markets in 1996.

For 1997, we had sufficient data to examine differences among markets with no entry, markets with 1-4 entrants, and markets with 5 or more entrants. For both 1998 and 1999, we examined differences among markets with no entrants, markets with 1-4 entrants, markets with 5-9 entrants, and markets with 10 or more entrants. Thus, over time, as more markets have been entered, we have been able to undertake increasingly detailed statistical analyses of the pattern of local competition.

Because the variation in the number of competitors in each market has increased over time, our analysis and subsequent results have become richer over time. As a corollary, however, our ability to analyze some differences in markets will diminish over time. For example, it is likely that in the near future virtually all markets will have been entered. Relying on data available at such a point in time, one will be unable to draw any conclusions regarding differences between markets with and without entry. This inevitable outcome further emphasizes the unique opportunity, available at this time, to analyze the factors that contribute to the formation of local competition in the telephone industry.

Results of the Analyses

In addition to enabling us to analyze key determinants of entry of facilities-based firms into local telephone markets, the data set we have examined allows us to evaluate the validity of certain assertions of industry analysts. One such assertion, made by virtually all analysts, is that competition is emerging most rapidly in urban business districts.[6] This observation meets with prior expectations, which are

---

[4] Facilities-based carriers are those carriers that provide service to customers on their own network using their own equipment (or plant). Hybrid-facilities-based carriers provide service to customers on their own network using their own equipment in tandem with equipment leased from other telecommunications carriers. Hereafter, unless otherwise specified, we will use the term facilities-based carriers to refer to the combination of both facilities-based and hybrid-facilities-based carriers.

[5] LATAs delineate the geographical areas within which BOCs may offer telephone service. BOCs are prohibited from carrying telephone traffic across LATA boundaries (interLATA traffic), but are allowed to carry telephone traffic, including toll calls, within LATA boundaries (intraLATA traffic). As used here, long distance service refers to interLATA service.

[6] Huber states: "In local markets, competition has developed rapidly – but only where competition makes strategic sense for new entrants. It makes sense in the business markets of larger cities." ("Local Exchange Competition Under the 1996 Act: Red-Lining the Local Residential Customer," report researched by Telecom Policy and Analysis Group and written by Peter W. Huber, funded by SBC Communications Inc. and BellSouth Corporation, 1997, at i.) Cooper and Kimmelman

based on historical telephone cost and usage patterns. For example, a large body of literature describing the cost structure of the telephone network supports the conclusion that local telephone companies incur greater costs by serving rural customers than by serving urban customers.[7] Furthermore, business customers, which are often concentrated in urban areas, have historically used the network more intensively than residential customers.[8] Consequently, local telephone companies have historically collected a disproportionate share of their local telephone revenue from business customers. In concert, these factors indicate that the high-volume, low-cost customers in urban business districts are more attractive to new entrants than either rural or residential customers.

The facilities-based entry patterns in the three years following the 1996 Act's passage provide empirical support for these observations. We have found statistical support for the fact that firms are entering the largest and densest markets first. That is, in each period examined there is a statistically significant and positive relationship between the probability a market is entered and the number of households in the area. In addition, in all periods after 1996, the relationship between the percentage of the population in areas typically characterized by high business concentration, dense urban areas, and the probability the area is entered is statistically significant and positive. Examining the most recent period (1999), these results extend to differences between the degree of entry in entered markets.[9] While these results are not surprising, they provide systematic empirical support for observations that have heretofore been supported by anecdotal evidence.

In addition to describing entry patterns, the information gathered in this report sheds light on the effectiveness of key components of the 1996 Act. An aspect that has drawn particular attention is the prohibition that prevents the largest incumbent local telephone companies, the BOCs, from carrying long distance traffic in their own local service territories until certain conditions have been met.[10] The

---

claim: "To the extent that there is competition, it is almost entirely restricted to the large urban areas." ("The Digital Divide Confronts the Telecommunications Act of 1996," report written by Mark Cooper, Consumer Federation of American, and Gene Kimmelman, Consumers Union, Feb. 1999, at 34.) Hubbard and Lehr assert: "Such competition as the incumbents face is limited to commercial customers in major metropolitan areas." ("Improving Local Exchange Competition: Regulatory Crossroads," report by R. Glenn Hubbard and William H. Lehr, funded by AT&T, Feb. 1998, at 15.) Similarly, Gabel and Gabel claim: "Due to large sunk costs, as well as other barriers, replication of the loop network has occurred in few places outside of central business districts." (Richard Gabel and David Gabel, "The Application of Cost Data in the Telecommunications Industry," paper presented at Twenty-fifth Annual Telecommunications Policy Research Conference, Alexandria, VA, Sept. 27-29, 1997, at 12.)

[7] For a summary of the literature on telephone network costs, *see* Robert W. Crandall and Leonard Waverman, *Talk is Cheap: The Promise of Regulatory Reform in North American Telecommunications*, Washington, DC: Brookings Institution Press, 1995, Chapter 3.

[8] In 1996, 68% percent of local exchange carriers' billable access lines reported to the FCC were residential lines (*see* FCC, *Statistics of Communications Common Carriers: 1996/1997 Edition*, Table 2.19). However, in 1996 only 51% of local revenue was collected from residential customers (*see* U.S. Department of Commerce, U.S. Census Bureau, *Annual Survey of Communications Services: 1996* (1998), Table 5).

[9] Specifically, LATAs with a large portion of the population in urban areas will be more likely to have 10 or more competitors than LATAs with a more rural population.

[10] For detail on the specifics of the requirements that must be met in order for the BOCs to be permitted to provide long distance service within their own local service territories, *see* Telecommunications Act of 1996, Pub. Law No. 104-104, 110 Stat. 56, codified 47 U.S.C. §§ 151 et. seq. and, in particular, section 271 of the 1996 Act, 47 U.S.C. § 271.

prohibition is perceived to combat a two-fold problem in achieving the pro-competitive goals of the 1996 Act. First, in order for a customer of a new local service provider to place calls to customers on an incumbent provider's network, and thereby receive the benefits of the existing telephone subscribership base, the new local service provider must interconnect its network with that of the incumbent.[11] Second, absent competition in the local service market, long distance carriers depend on the incumbent local telephone companies for access to their customers. Under such circumstances, incumbent local telephone companies that are able to provide long distance service can leverage their monopoly power to gain competitive advantages in the provision of long distance service.[12] Consequently, the 1996 Act prohibits the BOCs from carrying long distance traffic in their own local service territories until the conditions set out in the Act to ensure the existence of effective competition have been met.

Opinions are mixed as to whether this limitation on BOCs is an effective means of achieving the pro-competitive goals of the Act. For example, Hubbard and Lehr conclude that "[a]llowing BOC entry into long distance while preserving the lack of choice in local exchange markets will strengthen BOC's barriers to entry . . . "[13] Huber, however, argues that the BOC prohibition has exactly the opposite effect. He argues that the long distance carriers are not providing local telephone service in BOC territories in order to " . . . block Bell Company entry into the residential long-distance markets by persuading regulators that local competition has failed."[14]

Evaluating facilities-based entry patterns in local telephone markets, we find that, controlling for demographics, new firms are more likely to enter BOC regions than they are to enter independent (that is, non-BOC incumbent) regions. This relationship was not statistically significant in 1996. It was first significant in the 1997 data and has increased in significance over time. This empirical evidence lends credence to the view that the BOC long distance prohibition *is* effective in facilitating competitive entry into BOC local telephone markets. On the other hand, the empirical evidence may simply reflect a historic reluctance of state regulators to consider authorizing local competition in areas not served by BOCs because of fears of rural cream skimming or other reasons.

Interestingly, the differences in entry patterns between BOC territories and independent territories, at least in the most recent data, do not extend beyond the entry decision of the initial new provider. That is, there is little statistical difference between the *degree* of entry in a BOC territory that has been

---

[11] For a discussion of externalities (network externalities) that arise when a good is more (or less) valuable to a user the more users adopt the same good or compatible ones, *see* Jean Tirole, *The Theory of Industrial Organization*, Cambridge, MA: The MIT Press (1990), Chapter 10. As noted by Crandall: "All carriers have an interest in being able to connect with other carries, but an incumbent monopolist may find that its optimal strategy is to refuse interconnection to new carriers, thereby making it impossible for nascent carriers to survive." (Robert W. Crandall, "Managed Competition in U.S. Telecommunications," Working Paper 99-1, AEI-Brookings Joint Center for Regulatory Studies, Mar. 1999, at 10.)

[12] See Economides, for example, for a discussion of the means available to monopoly providers of local telephone service, if they also provide long distance service, to engage in anti-competitive actions against their long distance rivals. (Nicholas Economides, "The Telecommunications Act of 1996 and Its Impact," *Japan and the World Economy*, forthcoming (Sept. 1998 draft), at 24-33.)

[13] R. Glenn Hubbard and William H. Lehr, "Improving Local Exchange Competition: Regulatory Crossroads," Feb. 1998, at 41.

[14] Peter W. Huber, "Local Exchange Competition Under the 1996 Act: Red-Lining the Local Residential Customer," 1997, at 37.

entered by at least one competitor and the *degree* of entry in an independent territory that has been entered by at least one competitor. This suggests that if the factors that make independent territories less appealing to competitors are insufficient to prevent entry altogether, then those factors have very little effect on the entry patterns in the territory.

There are a number of possible explanations for these results. For example, the results may indicate that the first competitor to overcome the regulatory or other barriers to entry in an independent territory effectively removes those barriers for other competitors. Alternatively, the results may indicate "follow-the-leader" gaming effects in which entry by one competitor "triggers" entry by additional competitors who maintain competitive service territories in order to efficiently compete for capital funding. In any event, once a single competitor has entered a territory, our statistical analyses demonstrate that entry patterns in the territory are independent of whether a BOC or an independent provides service in that territory.

Open Questions for Further Analysis

Although relatively few firm conclusions can be drawn from the data thus far available, the patterns of entry observed after 1996 in areas served by Ameritech are different, to a degree that is statistically significant, from the patterns of entry observed in areas served by other BOCs. The entry patterns in Ameritech areas after 1996 resemble those of non-BOC independents rather than those of the other BOCs. That is, the probability that a facilities-based competitor is present in an Ameritech LATA is statistically indistinguishable from the probability that such a competitor is present in a non-BOC incumbent LATA, once demographic and regulatory differences among LATAs are taken into account, and is lower than the probability that a facilities-based competitor is present in a BOC LATA that is not an Ameritech LATA.

Various hypotheses might be consistent with this statistical result. One hypothesis is that Ameritech has been more successful in "rebalancing" its retail rates to more closely reflect costs, thereby making its urban business districts less attractive to entry. Another possibility is that Ameritech is a particularly low-cost carrier and its territory, therefore, is relatively unattractive to facilities-based entry.[15] Yet another hypothesis is that Ameritech is less receptive to facilities-based competition than are other BOCs, but this supposition does not seem to accord with CLEC industry perceptions. The statistical result also could occur if Ameritech accommodates entry in such a way that new entrants in its territory are less likely to rely substantially on facilities that they construct themselves. Although designed to be catalysts in the competitive process, that is, the alternative entry vehicles of resale and hybrid operation may be creating unintended consequences. Along these lines, Crandall asserts that ". . . by creating such ample opportunities for entrants to use incumbents' network facilities, the Act discourages investment in new facilities."[16]

The possibility that entrants in Ameritech's service territory may have concentrated on resale and hybrid entry strategies is suggested by data collected in the Common Carrier Bureau's voluntary local competition survey, from which key results are summarized in Section III of this report. In year-end

---

[15] At this time, we have not identified data series to test the first two hypotheses, and we welcome suggestions about available data that would allow us to do so.

[16] Robert W. Crandall, "Managed Competition in U.S. Telecommunications," Working Paper 99-1, AEI-Brookings Joint Center for Regulatory Studies, Mar. 1999, at 17.

1998 responses, summarized in Table 3.1, Ameritech was at the high end of percentage of lines resold to competitors, on a company-wide basis. Of perhaps greater significance, Ameritech reported the highest percentage of resold lines in the earlier surveys, beginning at year-end 1997. Ameritech also has consistently reported the highest percentage of lines leased to hybrid-facilities competitors as UNE loops, on a company-wide basis, as summarized in Table 3.3. The larger share of such leased lines reported by Ameritech may be due to the low lease rates in selected parts of states in its service territory. In Chicago, for example, monthly lease rates for UNE loops are under $3.00. Furthermore, in selected areas in Wisconsin, Ohio, and Michigan, Ameritech offers monthly line lease rates under $10.00, a price below the $16 average line lease rate of other ILECs for which lease rate information is available.

In sum, we simply do not yet have enough empirical data to definitively determine the reasons for the difference in facilities-based entry patterns in the Ameritech and other BOC territories in recent periods, and we invite others to participate in further statistical analysis of the determinants of this difference.

[Note to electronic version: This page intentionally not numbered and left blank.]

II. NEW ENTRANT SHARE OF THE NATIONWIDE MARKET

This section compares nationwide fiber deployment and revenue data for ILECs with data for competitors, especially new entrants in the local market. While consumers in a particular market can take service only from carriers that actually provide service in that market, the nationwide data serve as an indicator of broad trends.

Chart 2.1 summarizes fiber deployment by ILECs and by local competitors whose primary focus is providing local exchange and toll access services, rather than long distance service. "Fiber miles," which are miles of fiber cable multiplied by fiber strands per cable, include lit fiber (i.e., fiber that has been activated to carry telecommunications by the addition of optoelectronic equipment) and dark (i.e., not activated) fiber. The ILEC data include fiber in toll networks as well as fiber used to connect ILEC switches and for local distribution. This chart shows that ILECs added about 2.1 million fiber miles in 1998, an amount larger than the local competitor inventory at the end of 1997.

Chart 2.2, however, shows that local competitors have had much faster annual rates of growth of fiber deployed. Consequently, as indicated by Chart 2.1, local competitors increased their amount of fiber in place about five-fold from 1995 to 1998 and, at the end of 1998, had at least 16% of the total fiber optic system capacity potentially available to carry calls within local telecommunications markets and to deliver calls to long distance carriers. This comparison of relative fiber deployment overstates the relative size of competitive local networks, however, because it ignores the copper-based facilities of the ILECs. While the new entrants primarily install fiber, the ILECs' local networks consist primarily of copper-based facilities.

Tables 2.1 through 2.5 present revenue data taken from TRS and Universal Service Worksheets.[17] Carriers file these worksheets to help determine contribution levels for Telecommunications Relay Service and universal service support mechanisms. In these worksheets, carriers are asked to identify their primary line of business and report their revenues by type of service.

Table 2.1 shows the number and type of carriers reporting local service revenues (excluding local mobile services). ILECs reported $98 billion of local service revenue in 1998, up from $80 billion in 1993. Carriers that identified their primary business as CAP or CLEC reported $2.4 billion of local service revenue in 1998, up from less than $200 million in 1993. Other carriers (local resellers, shared tenant service providers, private carriers, payphone providers, toll carriers, etc.) reported about $1.1 billion of local exchange service revenue in 1998. In sum, the table shows that even with the most expansive definition of local competition, the ILECs billed 96% of 1998 local service revenues, even though other carriers continued to grow rapidly.

The category "all other carriers" in Table 2.1 primarily consists of payphone, wireless, and toll carriers. The amount of local exchange service revenue reported by such carriers has grown rapidly,

[17] The worksheets and the revenue data contained therein are described in Common Carrier Bureau, Industry Analysis Division, *Telecommunications Industry Revenue*, Oct. 1998. Source data have been used to generate some breakouts that do not appear in that report.

from $59 million in 1996 to $809 million in 1998.[18] Much of this amount represents entry *via* resale. Furthermore, it represents entry by substantial carriers. In 1998, 15 toll carriers with gross telecommunications revenues greater than $100 million each reported more than $1 million in local exchange service revenue.

Table 2.2 shows the total telecommunications service revenue reported by various types of companies reporting local service revenues. This measure places emphasis on the overall size of the competitors, rather than the actual levels of local service provided. By this measure, ILECs, in the aggregate, were more than a thousand times as large as the CAPs and CLECs in 1992. By 1998, they remained far larger, but the differential had fallen to the point where ILECs were only 32 times as large. In terms of overall size, ILEC revenues also remain far larger than the revenues of resellers and other firms focusing on the local market. In 1998, however, ILECs billed only 1.4 times as much revenue as did the wireless, toll, and other firms also reporting local exchange service revenue. Thus, in terms of sheer size, the fringes of the local market are being nibbled by firms of substantial size (primarily long distance and wireless carriers with billions of dollars of non-local revenues).

Tables 2.3 through 2.5 rely on the reporting format of the Universal Service Worksheet and permit a more detailed analysis of service revenues than was possible using TRS Worksheet data. Table 2.3 summarizes revenue earned in 1998 by providing services *to other carriers*, whereas Table 2.4 summarizes revenue earned in 1998 by providing services *to end users*. Together, these tables represent most of the telecommunications service provided by the industry.[19] Table 2.5 augments Universal Service Worksheet data with TRS Worksheet data of carriers that did not file Universal Service Worksheets in order to estimate the total size of the industry.

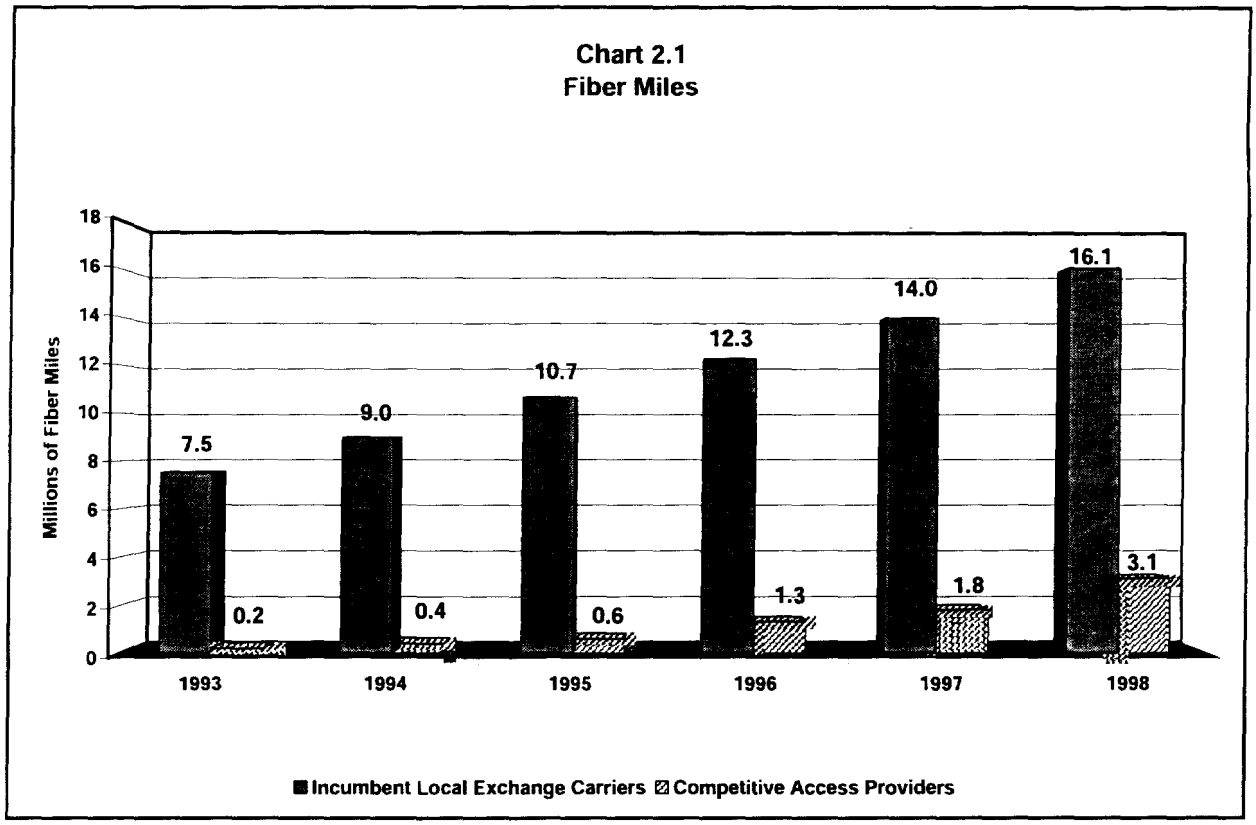
Table 2.3 shows that CAPs, CLECs, and other primarily local competitors accounted for only about 4.6% of local services provided to other carriers in 1998. Similarly, Table 2.4 shows that these competitors provided only about 1.8% of local services to end users. These carriers, however, reported about 12.2% of the total special access and local private line services provided to other carriers and 8.1% of such services provided to end users. This reflects the fact that CAPs concentrated on providing special access-type services to business customers when they first entered the market and that these services continue to represent significant parts of their businesses.

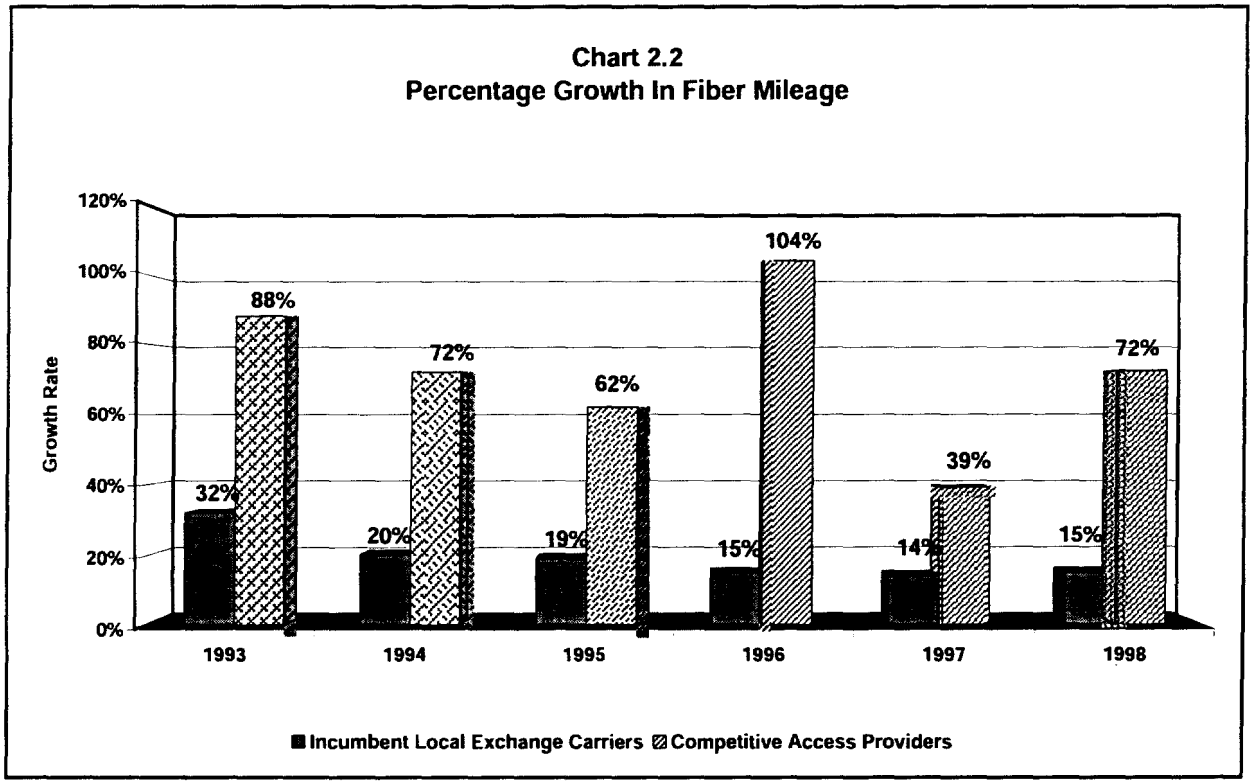
---

[18] Data summarized in Table 2.1 are adjusted for mis-reported Presubscribed Interexchange Carrier Charge (PICC) pass-through charges. The PICC is an access charge that long distance companies pay to local telephone companies as of January 1, 1998. Instead of paying a higher charge per minute to the local telephone companies as was required under older federal access charge rules, the long distance companies now pay to local telephone companies a flat-rated, per-telephone line charge plus a lower charge per minute. *See*, for example, "Consumer Information: The FCC's Interstate Access Charge System," available on the World Wide Web at <http://www.fcc.gov/Bureaus/Common_Carrier/Factsheets/access2.html>.

[19] Tables 2.3 and 2.4 do not contain about $2.3 billion of revenue from carriers that were considered *de minimis* for universal service contribution purposes.

[Note to electronic version: This page intentionally not numbered and left blank.]





Source: Industry Analysis Division, *Fiber Deployment Update*.

Table 2.1
Local Service Market *
(Dollar Amounts Shown in Millions)

	TRS Data				TRS & USF Data	
	1993	1994	1995	1996	1997	1998
Number of Local Competitors						
RBOCs & Other Incumbent LECs	1,281	1,347	1,347	1,376	1,410	n.a.
CAPs & CLECs	20	30	57	94	129	355
Local Resellers, Shared Tenant, Private Carriers & Other Local	n.a.	n.a.	n.a.	25	18	59
All other carriers reporting any local service revenue	n.a.	n.a.	n.a.	74	293	n.a.
Total	1,301	1,377	1,404	1,569	1,850	n.a.
Local Service Revenues **						
Incumbent LECs						
Bell Operating Companies ***	$58,838	$61,415	$65,485	$70,290	$68,993	$70,927
Other Incumbent LECs ***	20,894	22,507	24,269	24,899	25,355	27,449
Total ***	79,732	83,922	89,754	95,189	94,347	98,376
Local Service Competitors						
CAPs & CLECs	174	269	595	949	1,581	2,438
Local Resellers, Shared Tenant, Private Carriers & Other Local	n.a.	n.a.	n.a.	n.a.	224	329
All other carriers (local exchange service revenue only) ****	46	32	56	59	381	809
Total	220	301	651	1,008	2,186	3,575
Total	79,952	84,224	90,405	96,197	96,533	101,951
Share of Local Service Revenues						
Incumbent LECs						
Bell Operating Companies	73.6%	72.9%	72.4%	73.1%	71.5%	69.6%
Other Incumbent LECs	26.1%	26.7%	26.8%	25.9%	26.3%	26.9%
Total	99.7%	99.6%	99.3%	99.0%	97.7%	96.5%
Local Service Competitors						
CAPs & CLECs	0.2%	0.3%	0.7%	1.0%	1.6%	2.4%
Local Resellers, Shared Tenant, Private Carriers & Other Local	n.a.	n.a.	n.a.	n.a.	0.2%	0.3%
All other carriers	0.1%	0.0%	0.1%	0.1%	0.4%	0.8%
Total	0.3%	0.4%	0.7%	1.0%	2.3%	3.5%

* Some previously published data have been revised.

** For 1993 through 1996, for most categories of carriers, local service revenues include revenues from the following TRS reporting categories: local exchange, local private line, other local services, interstate access services and intrastate access services. The amounts shown do not include mobile or toll service revenue. Access revenues, however were excluded from the all other carrier category because these primarily consisted of mis-reported toll. Pay telephone and operator service revenues were included for pay telephone providers because much of such revenue is reported as local service revenue starting in 1997. 1998 revenue for carriers that file TRS worksheets but not universal service worksheets was estimated using 1998 TRS worksheets. These worksheets contain carrier revenue data for calendar 1997.

*** Incumbent LEC local service revenues for 1996 and prior years include significant amounts of yellow pages, billing and collection and other revenues that were reported as other local service revenue. If these revenues were included in 1997, incumbent LECs would show significant revenue growth from 1996 to 1997. Inside wire maintenance was included in local service revenue in 1997 but not 1998.

**** Toll carriers typically provide resold special access services as part of toll service operations. These revenues are classified as local service revenue. In 1998, toll carriers reported about $1.2 billion of PICC pass-through charges as tariffed subscriber line charge and end user PICC revenue rather than as toll revenue. Thus, it is more appropriate to compare toll carrier local exchange revenue with total local service revenues of other carriers. Total local service revenue for the carriers is shown below:

All local service revenue reported by wireless and toll carriers with local exchange service revenue	1993	1994	1995	1996	1997	1998
	$243.0	$211.8	$296.7	$291.3	$1,274.0	$3,418.3

Source: Data filed on TRS and Universal Service worksheets. See *Telecommunications Industry Revenue,* October 1998.

Table 2.2
Total Telecommunications Revenue *
(Dollar Amounts Shown in Millions)

	TRS Data **					TRS & USF Data	
	1992	1993	1994	1995	1996	1997	1998
Total Telecommunications Revenues including local, mobile & toll service							
Incumbent LECs **	$91,584	$95,228	$98,431	$102,820	$107,905	$105,154	$108,234
CAPs & CLECs	69	191	274	637	1,012	1,919	3,348
Local Resellers, Shared Tenant, Private Carriers & Other Local	n.a.	n.a.	n.a.	n.a.	n.a.	562	686
All other carriers reporting any local service revenue	n.a.	n.a.	n.a.	n.a.	n.a.	74,421	76,025
Carriers not included above (Carriers that do not report any local service revenues)	n.a.	n.a.	n.a.	n.a.	n.a.	49,113	58,099
Industry Total	153,409	165,342	174,890	190,076	211,782	231,168	246,392
Ratio of Incumbent LEC total telecommunications revenues to the total telecommunications revenues of:							
CAPs & CLECs	1336 : 1	498 : 1	359 : 1	161 : 1	107 : 1	55 : 1	32 : 1
Local Resellers, Shared Tenant, Private Carriers & Other Local						187 : 1	158 : 1
Share of industry total telecommunications revenues							
Incumbent LECs **	59.7%	57.6%	56.3%	54.1%	51.0%	45.5%	43.9%
CAPs & CLECs	0.0%	0.1%	0.2%	0.3%	0.5%	0.8%	1.4%
Local Resellers, Shared Tenant, Private Carriers & Other Local						0.2%	0.3%

* Some previously published data have been revised.

** Incumbent LEC local service revenues for 1996 and prior years include significant amounts of yellow pages, billing and collection and other revenues that were reported as other local service revenue. If these revenues were included in 1997, incumbent LECs would show significant revenue growth from 1996 to 1997. Inside wire maintenance was included in local service revenue in 1997 but not 1998. 1998 revenues for carriers that file TRS worksheets but not universal service worksheets were estimated using 1998 TRS worksheets. These worksheets contain carrier revenue data for calendar 1997.

Source: Data filed on TRS and Universal Service worksheets. See *Telecommunications Industry Revenue,* October 1998.

Telecommunications Service Providers that filed a Universal Service Worksheet

Table 2.3

Revenue for Services Provided to Other Carriers for Resale
Reported by Carriers that Contribute to Universal Service Support Mechanisms **

FCC 457 Line #		Revenue by Service Category for 1998 (Amounts shown in millions)							Percentage of Industry Revenue	
		ILECs	Local Competitors	Payphone	Wireless telephony	Other Wireless	Toll	Total	ILECs	Local Competitors
	Fixed local service:									
	Monthly service, local calling, connection charges, vertical features, inside wiring maintenance, and other local exchange service:									
22 a	Provided as unbundled network elements	$58.0	$72.0		$0.3		$14.0	$144.3	40.2 %	49.9 %
22 b	Provided under tariffs or arrangements other than unbundled network elements	2,415.4	73.6		1.7		2.9	2,493.6	96.9	3.0
	Per minute charges for originating or terminating calls									
23 a	Provided as unbundled network elements or other contract arrangement	174.8	249.6	*	18.3		70.1	512.8	34.1	48.7
23 b	Provided under state or federal access tariff	17,707.0	114.2		7.7	0.2	107.2	17,936.2	98.7	0.6
	Total per minute access charges	17,881.8	363.8	*	26.0	0.2	177.3	18,449.0	96.9	2.0
24	Local private line & special access	5,087.2	715.3	0.8	2.1		49.3	5,854.8	86.9	12.2
25	Pay telephone compensation from toll carriers	275.0	9.5	137.2	1.2		3.0	425.9	64.6	2.2
26	Other local telecommunications service revenues	301.3	112.5		3.9		15.2	432.8	69.6	26.0
27	Universal service support receipts	1,394.3	4.7				7.1	1,406.1	99.2	0.3
	Total fixed local service provided for resale	27,413.0	1,351.4	138.1	35.1	0.2	268.7	29,206.5	93.9	4.6
	Mobile service:									
28	Wireless telephony, paging messaging, and other mobile service monthly, activation, and message charges except toll	186.5	0.9		2,263.5	564.4	29.4	3,044.6	6.1	0.0
	Total mobile service provided for resale	186.5	0.9		2,263.5	564.4	29.4	3,044.6	6.1	0.0
	Toll service:									
29	Operator and toll calls with alternative billing arrangements (credit card, collect, international call-back, etc.)	20.1	0.2	17.7	27.2	0.2	305.1	370.5	5.4	0.1
30	Other switched toll service (includes MTS, 800/888 service, etc.)	235.5	104.0		293.5	21.3	8,406.0	9,060.3	2.6	1.1
31	Long distance private line services	36.6	50.2		1.2		1,893.5	1,981.5	1.8	2.5
32	Satellite services	0.1	2.2				39.5	41.9	0.2	5.3
33	All other long distance services	60.0	23.9		26.3		1,687.3	1,797.5	3.3	1.3
	Total toll service provided for resale	352.2	180.5	17.7	348.2	21.5	12,331.5	13,251.6	2.7	1.4
	Total service provided for resale (Carrier's Carrier)	27,951.8	1,532.8	155.8	2,646.8	586.0	12,629.5	45,502.7	61.4	3.4

Note: Figures may not add due to rounding.

* Denotes figures greater than $0 but less than $50,000.

** Carriers file Universal Service Worksheets if their contribution to universal service support mechanisms, based on the amount of end user revenue that they provide, would exceed $10,000. Carriers do not contribute based on revenues from services provided for resale. Many carriers do not have sufficient end user revenues to meet this threshold and are classified as de minimis. Services provided to de minimis or other non-reporting carriers, however, must be classified as end user revenues even if the services will be resold.

Telecommunications Service Providers that filed a Universal Service Worksheet

Table 2.4
Revenue for Services Provided to End Users
Reported by Carriers that Contribute to Universal Service Support Mechanisms **

FCC 457 Line #		Revenue by Service Category for 1998 (Amounts shown in millions)							Percentage of Industry Revenue	
		ILECs	Local Competitors	Payphone	Wireless telephony	Other Wireless	Toll	Total	ILECs	Local Competitors
	Fixed local service:									
34	Monthly service, local calling, connection charges, vertical features, inside wiring maintenance, and other local exchange service charges except for tariffed subscriber line charges	$53,630.5	$783.1	*	$33.3	$0.1	$754.2	$55,201.2	97.2 %	1.4 %
35	Tariffed subscriber line charges	9,779.0	69.9		0.2	*	1,203.2	11,052.3	88.5	0.6
	Local exchange service (line 34 + line 35)	63,409.4	852.9	*	33.5	0.2	1,957.4	66,253.5	95.7	1.3
36	Local private line and special access service	4,108.5	367.2		1.6	*	70.9	4,548.2	90.3	8.1
37	Pay telephone coin revenues	1,310.8	35.4	749.9	*		13.8	2,109.9	62.1	1.7
38	Other local telecommunications service revenues	1,595.7	102.3	1.3	0.6	1.7	44.8	1,746.5	91.4	5.9
	Total fixed local service	70,424.4	1,357.9	751.2	35.7	1.9	2,087.0	74,658.1	94.3	1.8
	Mobile service:									
39	Monthly and activation charges	131.1	24.7		14,060.8	2,455.3	404.0	17,076.0	0.8	0.1
40	Message charges including roaming but excluding toll charges	110.9	12.4		14,978.9	660.9	356.3	16,119.4	0.7	0.1
	Total Mobile Service	242.0	37.1		29,039.7	3,116.3	760.3	33,195.3	0.7	0.1
	Toll service:									
41	Pre-paid calling card (including card sales to customers and to retail establishments)	17.1	0.9	*	11.5	0.2	1,244.9	1,274.5	1.3	0.1
42	International calls that both originate and terminate in foreign points	*	0.2		1.6	2.5	1,116.1	1,120.5	0.0	0.0
43	Operator and toll calls with alternative billing arrangements (credit card, collect, international call-back, etc.) other than revenue reported on line 42	346.4	39.0	132.9	8.4	5.0	8,907.9	9,439.6	3.7	0.4
44	Other switched toll service (includes MTS, 800/888 service, etc.)	7,229.3	883.9		876.1	51.2	56,067.3	65,107.8	11.1	1.4
45	Long distance private line services	1,342.8	67.7		13.3		8,547.0	9,970.9	13.5	0.7
46	Satellite services	0.1	26.4			1.3	128.8	156.6	0.1	16.9
47	All other long distance services	108.4	24.3		74.4	0.2	1,183.0	1,390.3	7.8	1.7
	Total toll service (excluding Line 42 calls that both originate and terminate in foreign points)	9,044.1	1,042.1	133.0	983.7	57.9	76,079.0	87,339.6	10.4	1.2
48	Charges on end user bills identified as recovering state or federal universal service contributions	51.3	14.3	0.1	291.3	46.7	1,854.8	2,258.5	2.3	0.6
49	**Total end user revenue (excluding Line 42)**	79,761.8	2,451.3	884.3	30,350.3	3,222.8	80,781.1	197,451.6	40.4	1.2
	Total service provided for resale	27,951.8	1,532.8	155.8	2,646.8	586.0	12,629.5	45,502.7	61.4	3.4
	Total end user revenue (including Line 42)	79,761.8	2,451.6	884.3	30,352.0	3,225.3	81,897.2	198,572.1	40.2	1.2
	Total telecommunications revenue	107,713.6	3,984.4	1,040.1	32,998.8	3,811.3	94,526.7	244,074.8	44.1	1.6
50	Enhanced services, billing and collection, customer premises equipment, published directory and non-telecommunications service revenue	10,609.4	517.7	51.4	4,243.7	1,457.1	11,064.7	27,944.0	38.0	1.9
51	Gross billed revenue from all sources	118,322.9	4,502.1	1,091.5	37,242.5	5,268.4	105,591.4	272,018.8	43.5	1.7

Note: Figures may not add due to rounding.

* Denotes figures greater than $0 but less than $50,000.

** Carriers file Universal Service Worksheets if their contribution to universal service support mechanisms, based on the amount of end user revenue that they provide, would exceed $10,000. Carriers do not contribute based on revenues from services provided for resale. Many carriers do not have sufficient end user revenues to meet this threshold and are classified as de minimis. Services provided to de minimis or other non-reporting carriers, however, must be classified as end user revenues even if the services will be resold.

Table 2.5
Telecommunications Revenue: All Carriers

FCC 457 Line #	Revenue by Service Category for 1998 (Amounts shown in millions) ILECs	Local Competitors	Payphone	Wireless telephony	Other Wireless	Toll	Total	Percentage of Industry Revenue ILECs	Local Competitors
Universal Service Worksheet Data: **									
Per minute access	$17,881.8	$363.8	*	$26.0	$0.2	$177.3	$18,449.1	96.9 %	2.0 %
Other local service revenue	80,000.9	2,353.5	889.4	45.2	1.9	2,227.4	85,522.3	93.5	2.8
Local service revenue	97,882.7	2,717.3	889.4	71.2	2.0	2,404.7	103,971.3	94.1	2.6
Mobile service revenue	428.7	38.2		31,584.5	3,726.5	807.5	36,585.2	1.2	0.1
Toll service revenue	9,402.1	1,228.9	150.7	1,343.1	82.8	91,314.5	103,518.3	9.1	1.2
Total telecommunications revenue included on Universal Service Worksheets	107,713.6	3,984.4	1,040.1	32,998.8	3,811.3	94,526.7	244,074.8	44.1	1.6
TRS Worksheet Data: ***									
Revenues reported by service providers that filed TRS Worksheets but not Universal Service Worksheets:									
Per minute access	349.8	16.0	0.0	0.0	0.0	21.1	386.9	90.4	4.1
Other local service revenue	143.5	33.2	4.1	6.3	0.9	20.5	208.5	68.8	15.9
Local service revenue	493.3	49.2	4.1	6.3	0.9	41.7	595.4	82.9	8.3
Mobile service revenue	0.5	0.0	0.3	131.6	57.0	0.0	189.4	0.3	0.0
Toll service revenue	26.6	0.8	56.3	2.6	23.1	1,423.1	1,532.4	1.7	0.1
Total telecommunications revenue not included on Universal Service Worksheets	520.4	50.0	60.6	140.4	81.0	1,464.8	2,317.2	22.5	2.2
USF and TRS worksheet data combined: **									
Per minute access	18,231.6	379.8	0.0	26.0	0.2	198.4	18,836.0	96.8	2.0
Other local service revenue	80,144.4	2,386.7	893.5	51.5	2.8	2,247.9	85,730.8	93.5	2.8
Local service revenue	98,376.0	2,766.5	893.5	77.5	2.9	2,446.4	104,566.7	94.1	2.6
Mobile service revenue	429.2	38.2	0.3	31,716.1	3,783.5	807.5	36,774.6	1.2	0.1
Toll service revenue	9,428.7	1,229.7	207.0	1,345.7	105.9	92,737.6	105,050.7	9.0	1.2
Total Telecommunications Revenue	108,234.0	4,034.4	1,100.7	33,139.2	3,892.3	95,991.5	246,392.0	43.9	1.6
Percentage of revenue by line of business									
Per minute access	16.8%	9.4%	0.0%	0.1%	0.0%	0.2%	7.6%		
Other local service revenue	74.0%	59.2%	81.2%	0.2%	0.1%	2.3%	34.8%		
Local service revenue	90.9%	68.6%	81.2%	0.2%	0.1%	2.5%	42.4%		
Mobile service revenue	0.4%	0.9%	0.0%	95.7%	97.2%	0.8%	14.9%		
Toll service revenue	8.7%	30.5%	18.8%	4.1%	2.7%	96.6%	42.6%		

Note: Figures may not add due to rounding.

* Denotes figures greater than $0 but less than $50,000.

** Carriers file Universal Service Worksheets if their contribution to universal service support mechanisms, based on the amount of end user revenue that they provide, would exceed $10,000. Carriers do not contribute based on revenues from services provided for resale. Many carriers do not have sufficient end user revenues to meet this threshold and are classified as de minimis. Services provided to de minimis or other non-reporting carriers, however, must be classified as end user revenues even if the services will be resold.

*** 1998 revenue for carriers that file TRS worksheets but not universal service worksheets was estimated using 1998 TRS worksheets. These worksheets contain carrier revenue data for calendar 1997.